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EXAMINER	
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ART UNIT	PAPER NUMBER
2121	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/01/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/671,908	BROMLEY, CLIFTON HAROLD	
	Examiner	Art Unit	
	Jennifer L. Norton	2121	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 January 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-42* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-42* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *25 September 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. The following is a **Non-Final Office Action** in response to the Request for Continued Examination filed on 9 January 2007. Claims 1, 17, 35 and 39 have been amended. Claim 43 has been previously cancelled. Claims 1-42 are pending in this application.

2. Claim 17 had been denoted as "previously presented", but appears to contain amendments therein. The Examiner has interpreted the claim as "currently amended", and examined the claim as set forth in the claim amendments filed on 9 January 2007.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1, 17, 35 and 39 recite, "...at least one of user characteristics, context, or prior arrangements made by the/a user...". For purpose of examination, the examiner has interpreted the limitation "context" as "The circumstances in which an event occurs; a setting." (per The American Heritage College Dictionary, pg. 309).

5. Claim 1 and 39 recite the limitation "the user" in lines 11 and 7, respectfully. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 1-11 and 14-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Pub. No.: 2002/0120921 (hereinafter Coburn) in view of U.S. Patent No. 5,551,030 (hereinafter Linden) in further view of U.S. Patent Publication No. 2005/0119871 (hereinafter Deffler).

8. As per claim 1, Coburn teaches a system that facilitates generation of code from a HMI representation of objects in an industrial automation environment, comprising:

a component (Fig. 90, element 9812) that analyzes the HMI representation of objects, each object that comprises the HMI representation is dynamically subsumable into other objects included in the HMI representation to form distinct HMI objects that include features of both subsumed objects (pg. 6, par. [0069]-[0070]);

an artificial intelligence component (pg. 57, par. [0719], pg. 58, par. [0731], pg. 59, par. [0734] and [0745] and Fig. 5a, element 512) that generates an arrangement of the HMI objects based upon at least one of user characteristics and context (pg. 19, par. [0300], [0301], [0307] and pg. 20, par. [0310]); and

a code generation component that generates code based at least upon the analyzed HMI objects (pg. 6, par. [0069] and Fig. 105, element 8007).

Coburn does not expressly teach the analysis based at least in part on a relatedness of each object that comprises the HMI representation, a feasibility determination for implementing the HMI representation and a historical component that links the HMI objects to templates used to create them, the system propagates changes made to the templates through at least a subset of the HMI objects.

Linden teaches an analysis based at least in part on a relatedness of each object that comprises the HMI representation and a feasibility determination for implementing the HMI representation (col. 4, lines 61-67 and col. 5, lines 1-20).

Linden does not expressly teach a historical component that links the HMI objects to templates used to create them, the system propagates changes made to the templates through at least a subset of the HMI objects.

Deffler teaches a historical component (pgs. 1-2, par. [0010] and Fig. 1, element 116) that links objects (pg. 2, par. [0017]-[0018] and Fig. 1, element 124 and 128) to templates (pg. 2, par. [0011]-[0013] and Fig. 1, element 122 and 126) used to create them, the system propagates changes made to the templates through at least a subset

of the objects (pg. 3, par. [0021]-[0023], pg. 4, par. [0029], Fig. 1, element 134 and Fig. 3, element 320-334).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to modify the teaching of Coburn to include an analysis based at least in part on a relatedness of each object that comprises the HMI representation, a feasibility determination for implementing the HMI representation and a historical component that links the objects to templates used to create them, the system propagates changes made to the templates through at least a subset of the objects to provide integration of existing text based and graphic user interface applications into an integrated graphical user environment without requiring application codes to be modified (Linden: col. 2, lines 55-58) and to reduce, minimize, or eliminate uncontrolled propagation of changes among modeling tools (Deffler: pg. 1, par. [0006]).

9. As per claim 2, Coburn as set forth above teaches the code being control code that governs actions of industrial components (pg. 6, par. [0070]).

10. As per claim 3, Coburn as set forth above teaches the code being at least one of ladder diagrams, function block diagrams, structured text, instruction lists, and sequential function charts (pg. 50, par. [0672], Fig. 1B and pg. 52, par. [0690]).

11. As per claim 4, Coburn as set forth above teaches the code relayed to at least one industrial component comprising a processing device (pg. 11, par. [0197] and Fig. 90, element 9814).

12. As per claim 5, Coburn as set forth above teaches the processing device being a programmable logic controller (pg. 11, par. [0197] and Fig. 90, element 9814).

13. As per claim 6, Coburn as set forth above teaches a library of disparate HMI objects (pg. 14, par. [0237] and [0238]).

14. As per claim 7, Coburn as set forth above teaches the HMI representation of objects comprises one or more HMI objects of the library (pg. 14, par. [0237] and [0238]).

15. As per claim 8, Coburn as set forth above teaches an editing component that enables editing of the HMI representation of objects (pg. 6, par. [0073], pg. 23, par. [0353] and [0354], pg. 25, par. [0377] and Figure 90, elements 9802 and 9806).

16. As per claim 9, Coburn as set forth above teaches the editing component comprising a modifiable template (pg. 6, par. [0073] and pg. 14. par. [0241]).

17. As per claim 10, Coburn as set forth above teaches a HMI comprising the system of claim 1 (pg. 38, par. [0520] and Fig. 90, element 8437).

18. As per claim 11, Coburn as set forth above teaches the HMI being a fixed HMI (pg. 38, par. [0520] and Fig. 90, element 8437).

19. As per claim 14, Coburn as set forth above teaches the code generation component comprises an intelligent component that automatically generates code of a program language desired by a user (pg. 6, par. [0070] and Fig. 90, element 9812).

20. As per claim 15, Coburn as set forth above teaches the code generation component comprises an intelligent component that automatically compiles code in an executable code format according to a processing device that receives the executable code (pg. 6, par. [0070] and [0071] and Fig. 90, element 9812).

21. As per claim 16, Coburn as set forth above teaches the code generation component outputs control code in a universal language, the control code automatically translated to a program language desired by a user by a first intelligent component, and the control code compiled into an executable code format according to a processing device that receives the executable code (pg. 6, par. [0070] and [0071]).

22. As per claim 17, Coburn teaches a system that facilitates industrial automation, comprising:

one or more HMI objects (pg. 14, par. [0237] and [0238]);

an industrial component (pg. 6, par. [0066] and [0067]); and

an industrial action (pg. 6, par. [0066] and [0067]);

an arrangement of the one or more HMI objects that represent at least one of:

an industrial system comprising at least one industrial component (pg. 6, par. [0066]); and

an industrial process comprising at least one industrial action (pg. 6, par. [0067] and [0069]);

the arrangement generated at least in part by an artificial intelligence component (pg. 57, par. [0719], pg. 58, par. [0731], pg. 59, par. [0734] and [0745] and Fig. 5a, element 512), the arrangement generated based upon at least one of user characteristics and context (pg. 19, par. [0300], [0301], [0307] and pg. 20, par. [0310]); and

a code generation component that generates code based at least in part upon the arrangement of HMI objects (pg. 6, par. [0069], [0070] and [0071]) and an associative relationship between each of the one or more HMI objects that comprise the arrangement (pg. 6, par. [0069] and [0070] and pg. 32, par. [0448]).

Coburn does not expressly teach the one or more HMI objects subsumable based at least in part on a compatibility between two or more HMI objects, the associative relationship is based at least in part on a feasibility determination for associating each of the one or more HMI objects and a historical component that links the HMI objects to templates used to create them, the system propagates changes made to the template through at least a subset of the HMI objects.

Linden teaches the one or more HMI objects subsumable based at least in part on a compatibility between two or more HMI objects and the associative relationship is based at least in part on a feasibility determination for associating each of the one or more HMI objects (col. 4, lines 61-67 and col. 5, lines 1-20).

Linden does not expressly teach a historical component that links the HMI objects to templates used to create them, the system propagates changes made to the template through at least a subset of the HMI objects.

Deffler teaches a historical component (pgs. 1-2, par. [0010] and Fig. 1, element 116) that links objects (pg. 2, par. [0017]-[0018] and Fig. 1, element 124 and 128) to templates (pg. 2, par. [0011]-[0013] and Fig. 1, element 122 and 126) used to create them, the system propagates changes made to the templates through at least a subset

of the objects (pg. 3, par. [0021]-[0023], pg. 4, par. [0029], Fig. 1, element 134 and Fig. 3, element 320-334).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to modify the teaching of Coburn to include the one or more HMI objects subsumable based at least in part on a compatibility between two or more HMI objects, the associative relationship is based at least in part on a feasibility determination for associating each of the one or more HMI objects the one or more HMI objects and a historical component that links the objects to templates used to create them, the system propagates changes made to the template through at least a subset of the objects to provide integration of existing text based and graphic user interface applications into an integrated graphical user environment without requiring application codes to be modified (Linden: col. 2, lines 55-58) and to reduce, minimize, or eliminate uncontrolled propagation of changes among modeling tools (Deffler: pg. 1, par. [0006]).

23. As per claim 18, Coburn as set forth above teaches an editing component that enables editing of the one or more HMI objects (pg. 6, par. [0073], pg. 23, par. [0353] and [0354], pg. 25, par. [0377] and Figure 90, elements 9802 and 9806).

24. As per claim 19, Coburn as set forth above teaches the editing component comprising a modifiable template (pg. 14, par. [0241] and pg. 6, par. [0073]).

25. As per claim 20, Coburn as set forth above teaches the editing component facilitating multi-user development (pgs. 48-49, par. [0649]).

26. As per claim 21, Coburn as set forth above teaches a creation component that enables creating HMI objects (pg. 47, par. [0621] and [0625]).

27. As per claim 22, Coburn as set forth above teaches the creation component comprising a modifiable template (pg. 47, par. [0626] and [0627]).

28. As per claim 23, Coburn as set forth above teaches the modifiable template employing graphical representations of HMI objects (pgs. 47-48, par. [0630] and [0633]).

29. As per claim 24, Coburn as set forth above teaches the modifiable template comprising a nested template (pg. 47, par. [0626] and [0627]).

30. As per claim 25, Coburn as set forth above teaches modification of the modifiable

template effectuates altering one or more objects generated by the modifiable template (pg. 47, par. [0626] and [0627]).

31. As per claim 26, Coburn as set forth above teaches an object generator that automatically generates the HMI objects (pg. 6, [0069] and [0070]).

32. As per claim 27, Coburn as set forth above teaches the object generator utilizing artificial intelligence techniques to infer existence of one or more components within the industrial system (pg. 6, par. [0069]). The automatic generation of rules is considered to be as artificial intelligence technique within the meaning as set forth in the applicant's disclosure.

33. As per claim 28, Coburn as set forth above teaches the object generator utilizing artificial intelligence techniques to infer existence of one or more actions within the industrial process (pg. 6, par. [0069] and [0070]). The automatic generation of rules is considered to be as artificial intelligence technique within the meaning as set forth in the applicant's disclosure.

34. As per claim 29, Coburn as set forth above teaches the object generator receiving data comprising information relating to at least one of:

the industrial system (pg. 6, par. [0066] and [0067]);

the industrial process (pg. 6, par. [0066] and [0067]); and

generating HMI objects based at least in part on the data (pg. 6, par [0069] and [0070]).

35. As per claim 30, Coburn as set forth above teaches the arrangement of HMI objects displayed as a single HMI object (pg. 6, par. [0069]).

36. As per claim 31, Coburn as set forth above teaches a library of disparate HMI objects (pg. 14, par. [0237] and [0238]).

37. As per claim 32, Coburn as set forth above teaches the arrangement of HMI objects comprising at least one input and at least one output (pg. 6, par. [0067] and [0069]).

38. As per claim 33, Coburn as set forth above teaches a connection mechanism that facilitates connecting HMI objects (pg. 6, par. [0069]).

39. As per claim 34, Coburn as set forth above teaches a system embodied in a computer readable medium (pg. 46-47, par. [0620] and Fig. 1A, element 20).

40. As per claim 35, Coburn teaches a system that automatically generates code to facilitate industrial automation, comprising:

means for receiving at least one HMI object for analysis, the HMI object representing one or more of:

an industrial component (pg. 6, par. [0066]); and

a particular action of an industrial process (pg. 6, par. [0068]);

means for arranging the at least one HMI object to represent one or more of:

an industrial system (pg. 6, par. [0069]); and

an industrial process (pg. 6, par. [0068]);

means for generating code based on the arrangement of the at least one HMI object (pg. 6, par. [0069], [0070], and [0071]); and

means for generating an arrangement of HMI objects based upon at least one of user characteristics and context (pg. 19, par. [0300], [0301], [0307] and pg. 20, par. [0310]).

Coburn does not expressly teach the analysis of an interrelationship between the at least one HMI object that comprises the arrangement, the at least one HMI object combinable with one or more disparate HMI objects that comprise the arrangement to form a distinct HMI object with characteristics of the combined HMI objects the combination based at least on a feasibility determination, a means for linking the at least one HMI object to a template from which the HMI object was created and means for altering the template and propagating the changes through at least a subset of HMI objects.

Linden teaches the analysis of an interrelationship between the at least one HMI object that comprises the arrangement, the at least one HMI object combinable with one or more disparate HMI objects that comprise the arrangement to form a distinct HMI object with characteristics of the combined HMI objects the combination based at least on a feasibility determination (col. 4, lines 61-67 and col. 5, lines 1-20).

Linden does not expressly teach a means for linking the at least one HMI object to a template from which the HMI object was created and means for altering the template, and propagating the changes through at least a subset of HMI objects.

Deffler teaches a means (pgs. 1-2, par. [0010] and Fig.1, element 116) for linking the at least one object (pg. 2, par. [0017]-[0018] and Fig. 1, element 124 and 128) to a template from which the object was created (pg. 2, par. [0011]-[0013], pg. 3, par. [0021]-[0023] and Fig. 1, element 122 and 126); and means for altering the template (pg. 4, par. [0029] and Fig. 3, element 320), and propagating the changes through at least a subset of objects (pg. 4, par. [0029], Fig. 1, element 134 and Fig. 3, element 320-334).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to modify the teaching of Coburn to include the analysis of an interrelationship between the at least one HMI object that comprises the arrangement, the at least one HMI object combinable with one or more disparate HMI

objects that comprise the arrangement to form a distinct HMI object with characteristics of the combined HMI objects the combination based at least on a feasibility determination, a means for linking the at least one object to a template from which the object was created and means for altering the template, and propagating the changes through at least a subset of objects to provide integration of existing text based and graphic user interface applications into an integrated graphical user environment without requiring application codes to be modified (col. 2, lines 55-58) and to reduce, minimize, or eliminate uncontrolled propagation of changes among modeling tools (Deffler: pg. 1, par. [0006]).

41. As per claim 36, Coburn as set forth above teaches a means for creating the HMI objects (pg. 47, par. [0621] and [0625]).

42. As per claim 37, Coburn as set forth above teaches means for editing the HMI objects (pg. 6, par. [0073], pg. 23, par. [0353] and [0354], pg. 25, par. [0377] and Figure 90, elements 9802 and 9806).

43. As per claim 38, Coburn as set forth above teaches a means for relaying the code to one or more processing devices (pg. 31, par. [0436] and Fig. 90, element 8323).

44. As per claim 39, Coburn teaches to a method for automatically generating code to govern actions of an industrial system and/or process comprising:

receiving a HMI representation of at least one of:

an industrial system (pg. 6, par. [0068]);

an industrial process (pg. 6, par. [0068]); and

generating an arrangement of the HMI representation based on at least one of user characteristics and context (pg. 19, par. [0300], [0301], [0307] and pg. 20, par. [0310]).

Coburn does not expressly teach automatically generating code based at least in part upon an interconnectedness analysis of the representation, the interconnectedness analysis employs a feasibility determination to ascertain compatibility of each HMI object included in the HMI representation, each HMI object associable with disparate HMI objects to create a distinguishable HMI object with synthesized characteristics, linking the HMI representation to a template from which it was created and propagating changes made to the template through at least a subset of HMI representation created from the template.

Linden teaches to automatically generating code based at least in part upon an interconnectedness analysis of the representation, the interconnectedness analysis employs a feasibility determination to ascertain compatibility of each HMI object

included in the HMI representation, each HMI object associable with disparate HMI objects to create a distinguishable HMI object with synthesized characteristics (col. 4, lines 61-67 and col. 5, lines 1-20).

Linden does not expressly teach to linking the HMI representation to a template from which it was created and propagating changes made to the template through at least a subset of HMI representation created from the template.

Deffler teaches to linking the representation to a template from which it was created (pgs. 1-2, par. [0010], pg. 3, par. [0021]-[0023], Fig. 1, element 116 and Fig.1, element 134) and propagating changes made to the template through at least a subset of representation created from the template (pg. 4, par. [0029] and Fig. 3, element 320-334).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to modify the teaching of Coburn to include automatically generating code based at least in part upon an interconnectedness analysis of the representation, the interconnectedness analysis employs a feasibility determination to ascertain compatibility of each HMI object included in the HMI representation, each HMI object associable with disparate HMI objects to create a distinguishable HMI object with synthesized characteristics, linking the representation to

a template from which it was created and propagating changes made to the template through at least a subset of representation created from the template to provide integration of existing text based and graphic user interface applications into an integrated graphical user environment without requiring application codes to be modified (col. 2, lines 55-58) and to reduce, minimize, or eliminate uncontrolled propagation of changes among modeling tools (Deffler: pg. 1, par. [0006]).

45. As per claim 40, Coburn as set forth above teaches automatically generating the representation of the industrial system and/or process by utilizing artificial intelligence techniques (pg. 6., par. [0069] and pg. 47, par. [0622]). The automatic generation of rules is considered to be as artificial intelligence technique within the meaning as set forth in the applicant's disclosure.

46. Claims 12-13 and 41-42 rejected under 35 U.S.C. 103(a) as being unpatentable over Coburn in view of Linden in further view of Deffler and U.S Patent Pub. No.: 2004/0260518 (referred to Polz hereinafter).

47. As per claim 12, Coburn in view of Linden in further view of Deffler does not expressly teach the HMI being a tethered HMI.

Polz teaches a HMI unit constitutes a notebook, which is connected to the intranet of a facility (pg. 2, par. [0022]).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to modify the teaching of Coburn in view of Linden in further view of Deffler to include a tethered HMI. A tethered portable HMI is advantageously mobile (pg. 2, par. [0022]).

48. As per claim 13, Coburn in view of Linden in further view of Deffler does not expressly teach HMI being a wireless HMI.

Polz teaches a HMI unit can be a mobile radio telephone or cell phone (pg. 2, par. [0024]).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to modify the teaching of Coburn in view of Linden in further view of Deffler to include a wireless HMI. A wireless HMI offers the advantage of identifying the nearest automation component to a service technician that he is situated in front of (pg. 2, par [0026]).

49. As per claim 41, Coburn in view of Linden in further view of Deffler does not expressly teach the method further comprising:

automatically generating the representation of the industrial system and/or process by utilizing plug-and-play technologies.

Polz teaches to a plug-and-play cable links between an object and automation component (pg. 2, par. [0025]).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to modify the teaching of Coburn in view of Linden in further view of Deffler to include plug-and-play technologies. Plug and play is advantageous because it provides automatic configuration of hardware devices without have to restart the computer and assures the user that hardware devices can be installed without resorting to manual hardware configuration of either the device or the PC into which the device is being installed.

50. As per claim 42, Coburn as set forth above teaches arranging HMI objects that represent at least one of

an industrial system (pg. 6, par. [0066]); and

an industrial process (pg. 6, par. [0067] and [0069]);

to create the representation of the industrial system and/or process (pg. 6, par. [0069], [0070], and [0071]).

Response to Arguments

51. Applicant's arguments, see Remarks pgs. 9-11, filed 9 January 2007, with respect to claims 1-42 under 35 U.S.C. 103(a) have been fully considered but they are not persuasive.

52. Applicant argues that the prior art fails to teach, "an artificial intelligence component that generates an arrangement of the HMI objects based upon at least one of user characteristics, context, or prior arrangements made by the user". The examiner respectfully disagrees.

Coburn discloses, (pg. 57, par. [0719]) "In the preferred embodiment, main processor 512 is embodied in a general purpose personal computer and includes, for example, a microprocessor and a memory for storing a diagnostic engine 522 and a data file 524."

(pg. 58, par. [0731]) "To minimize memory requirements and optimize the computing efficiency of main processor 512, it is preferable to select only a minimum number of timing patterns. The selected timing patterns should also provide the most

precise indicators of the machine's behavior. To achieve these goals, a rule competition procedure may be initiated in which an existing rule can be updated by replacing it with a better rule. The rule competition further allows diagnostic engine 522 to select diagnostic rules that may not necessarily have been intuitive from a knowledge of the machine's architecture."

(pg. 59, par. [0734]) "Before defining a common diagnostic rule, the timing statistics of the common timing pattern are subjected to the same evaluation process as described above. If the statistics of the common timing pattern do not satisfy the evaluation criteria (e.g., the mean time interval, the standard deviation or their ratio are too large), however, then diagnostic engine 522 will attempt to discover a version of the common timing pattern that will produce an acceptable diagnostic rule. For example, if the time interval between the trigger and result events varies between states as a result of a change in conveyor speed and a measurement of conveyor speed is available, then a diagnostic rule can be defined having a mean time interval that is a function of the measured speed.

As another example, if the manufacturing process can diverge into one of multiple courses of action and then resume a single course, forward or backward-looking diagnostic rules can be defined that diagnose the final and initial events of the individual courses of actions respectively, as will be explained below."

(pg. 59, par. [0745]) "For machines having an extremely large number of control elements 518, the definition of diagnostic rules could involve extensive computation and large amounts of memory. Thus, in the preferred embodiment of the invention, diagnostic engine 522 can employ alternative strategies that prevent the amount of computation time and the amount of memory from becoming excessive. For example, control elements 518 may be divided into independent groups which have little or no interaction with other groups. Rules are then defined on a group basis, and the rules for each group include only those discrete events which correspond to elements 518 within that group."

(pg. 19, par. [0300]) "While each of the CAS include predefined controls information, some or all of the CAS may include information which can be "parameterized" or "customized". In this context the term "parameterized" means that a portion of the CA can be modified so that CA features accommodate specific design requirements."

(pg. 19, par. [0301]) "In the exemplary scheme each CA template defines all of the control information which is required to support a maximum number of control devices and corresponding HMI characteristics, diagnostics and simulation. However, at least some of the control information defined in each parameterizable CA is selectable

and de-selectable via parameterization tools to be described. When CA information is selected, the information is said to be instantiated in the specific CA instance and is subsequently used by a compiler to generate a control execution code, to configure an HMI, to generate schematics and to provide simulation tools. Information which is not selected and instantiated is said to "exist" in the CA instance but is not subsequently used during compilation to generate execution code, configure an HMI, provide control system schematics or to support virtual system simulation."

(pg. 19, par. [0307]) "The second type of parameterization, feature selection, as the name implies, simply provides a control engineer the option to select or de-select optional CA control features for compilation which, although desired in certain applications, are not required in all applications. To this end, some of the devices in CA logic specification 9002 are required and others of the listed devices are not necessarily required for the 1stclamps CA to operate properly."

(pg. 20, par. [0310]) "Generally there are two different types of flag boxes, designation boxes and selection boxes. On one hand, a designation box is used to designate an associated device, characteristic or characteristic set as an item which is later presented as a selectable item for additional parameterization. Thus, a characteristic or characteristic set which is designated by a flag in a designation box is not instantiated but is later presented for possible instantiation. On the other hand, a

selection box is used to select and instantiate a corresponding characteristic for subsequent compilation."

53. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., "extrinsic data") are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Furthermore, Coburn discloses the use of "extrinsic data" with the use of component parameterization. (pg. 19, par. [0300]) "While each of the CAS include predefined controls information, some or all of the CAS may include information which can be "parameterized" or "customized". In this context the term "parameterized" means that a portion of the CA can be modified so that CA features accommodate specific design requirements."

54. Applicant argues that the prior art fails to teach, "a historical component". The examiner respectfully disagrees.

Deffler discloses (pgs. 1-2 and Fig. 1, element 116) "Memory 116 may include any memory or database module and may take the form of volatile or non-volatile

memory including, without limitation, magnetic media, optical media, Random Access Memory (RAM), Read Only Memory (ROM), removable media, or any other suitable local or remote memory component. In the illustrated embodiment, memory 116 includes a modeling repository 120 and one or more target models 124. Repository 120 comprises any storage media for the storage and retrieval of information. According to one embodiment, repository 120 comprises a relational database normally accessed through Structured Query Language (SQL) statements. Relational databases use sets of schemas to describe the tables, columns and relationships in the tables using basic principles known in the field of database design. Alternatively or in combination, repository 120 may store eXtensible Markup Language (XML) documents, flat files, Btrieve files, name-value-pair, and/or comma-separated-value (CSV) files. In the illustrated embodiment, repository 120 includes or references one or more template models 122, but may include any other data as appropriate."

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following references are cited to further show the state of the art with respect to interface configuration and control systems.

U.S. Patent Publication No. 2004/0098148 discloses human machine interfaces with control and monitoring systems.

U.S. Patent Publication No. 2005/0257204 discloses a system and method for designing animated visualization interfaces at a supervisory level, manufacturing and process control information wherein graphical symbols in the visualization interfaces are associated with components of a process control/manufacturing information application.

U.S. Patent No. 7,146,231 discloses an operator interface within a process plant includes an execution engine that implements process flow modules made up of interconnected smart process objects.

U.S. Patent No. 7,139,687 discloses a graphical block that defines the functionality of a lookup table and can be used in a block diagram model to capture time-varying characteristics of a system's behavior in the lookup table.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer L. Norton whose telephone number is 571-272-3694. The examiner can normally be reached on 8:00 a.m. - 4:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anthony Knight can be reached on 571-272-3687. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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